

# Attribute Trains

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**Reporting Category** Patterns, Functions, and Algebra

**Topic** Classifying

**Primary SOL** 1.16 The student will sort and classify concrete objects according to one or more attributes, including color, size, shape, and thickness.

**Related SOL** 1.12

## Materials

- Attribute blocks

## Vocabulary

*attributes, same, different, classify, category, sort, color, size, shape, thickness*

## Student/Teacher Actions (what students and teachers should be doing to facilitate learning)

1. Distribute randomly one attribute block to each student. Inform students that they will play a game to make a train out of the blocks. The train will be displayed along the tray below the board so everyone can see.
2. Start the game by choosing and displaying one attribute block to be the train's engine. Have students describe the block's four attributes of size, color, thickness, and shape (e.g., "large, red, thick triangle"). If a student thinks he or she has a block that shares two attributes with the first block, he or she may come up and place it as the first car on the train. He or she must also identify its two shared attributes as well as its other two attributes. If necessary, provide a sentence frame such as, "My block has the same \_\_\_\_\_ and \_\_\_\_\_ as the previous block. It's other two attributes are \_\_\_\_\_ and \_\_\_\_\_."
3. The next student who has a block that shares two attributes with the second block may then come forward, add the block to the train, and identify its two shared attributes as well as its other two attributes.
4. Play continues until as many blocks as possible have been added to the train.

## Assessment

- **Questions**
  - "Look at the third (or any number) block in the train. Is there another block that could be the next block besides the one that is already there? If so, why?"
  - "Look at the fourth (or any number) block in the train. What block or blocks could *not* be the next block? Why?"
- **Journal/Writing Prompts**
  - "Draw or use pre-cut shapes to make a train that has at least five blocks. Tell how each car is related to the one before it."
  - "Represent and describe at least two attributes that we used today when making our attribute train."

- **Other**
  - Randomly distribute an attribute block to each student. Have him/her describe three different attributes of the block that could be used to build a train.

**Extensions and Connections (for all students)**

- Adapt this game to be played with a variety of manipulatives.
- Have students play a game of attribute “dominoes.” Players must match at least one attribute to the previously displayed block in order to play a block. If a player cannot match at least one attribute, he/she must skip a turn. The first player to play all of his/her attribute blocks is the winner.
- Take students on an attribute scavenger hunt, having them find and record something that is blue and thick, or thin and round, or blue and square, etc. Have students share their findings during a math talk after the hunt.
- Have students play a card game similar to crazy eights in which they use cards based on color, suit, or number.

**Strategies for Differentiation**

- If students have difficulty focusing on four attributes, begin by working with only two (e.g., size and color).
- Put thin and thick attribute blocks in a long sock. Have students select blocks that fit the targeted attribute (e.g., thin blocks), using their sense of touch.
- Provide students with a visual reference for the attributes thick and thin.